

LIST OF CURRENT CLAIMS

1. (Currently Amended) A positioning apparatus, comprising wherein
a plug member (12) projecting from a first block (1) and adapted for insertion
~~inserted into a positioning hole (5) formed in a second block (2) is projected from a~~
~~first block (1),~~
a plurality of slide portions (61, 61) opposed to each other across the plug
member (12) ~~are~~ arranged around the plug member (12) for movement movably in a
first radial direction (D1) substantially orthogonal to the opposed direction thereof,
a first pressing member (15) ~~is arranged outside the slide portions (61, 61)~~
diametrically expandably and diametrically contractibly and axially movably within a
predetermined range arranged outside the slide portions (61, 61),
a second pressing member (19) ~~is arranged outside the slide portions (61, 61)~~
~~and inside the first pressing member (15)~~ diametrically expandably and diametrically
contractibly and axially movably within a predetermined range arranged outside the
slide portions (61, 61) and inside the first pressing member (15), and
wherein the first pressing member (15) or the second pressing member (19) is
arranged to be driven toward a base end by a drive means(D), such that whereby
the slide portions (61, 61) expand the first pressing member (15) in a second radial
direction (D2) different from the first radial direction (D1), and such that thereby the
slide portions (61, 61) are moved in the first radial direction (D1) with respect to the
plug member (12).
2. (Currently Amended) The positioning apparatus as set forth in claim 1,
including wherein
an inclined outer surface (13) ~~[[is]]~~ formed on the second pressing member
(19),
an inclined inner surface (17) enabling ~~allowed to make~~ a tapering
engagement with the inclined outer surface (13) ~~[[is]]~~ formed on the first pressing
member (15),
~~[[a]]~~ an axially movable drive member (21) ~~[[is]]~~ arranged to be inserted into

the plug member (12), ~~said axially movably, and the~~ drive member (21) ~~[[is]]~~
connected to the first pressing member (15) or the second pressing member (19),

~~the said~~ drive member (21) being arranged to move ~~moves~~ the first pressing member (15) or the second pressing member (19) toward the base end for locking to expand the first pressing member (15) in the second radial direction (D2) by the tapering engagement and to bring the first pressing member (15) into close contact with an inner peripheral surface of the positioning hole (5), and

~~the said~~ drive member (21) being also arranged to move ~~moves~~ the first pressing member (15) or the second pressing member (19) toward a leading end for releasing by canceling ~~to cancel~~ the diametrically expanded condition of the first pressing member (15) and canceling ~~cancel~~ the closely contacted condition.

3. (Currently Amended) The positioning apparatus as set forth in claim 1,
including wherein

an advancing means (69) arranged to advance ~~which advances~~ the first pressing member (15) or the second pressing member (19) toward a leading end is provided.

4. (Currently Amended) A positioning apparatus, comprising wherein

a plug member (12) projecting from a first block (1) and arranged to be
inserted into a positioning hole (5) formed in a second block (2) ~~is projected from a first block (1),~~

a plurality of slide portions (61, 61) opposed to each other across the plug member (12) ~~are~~ arranged around the plug member (12) for movement ~~movably~~ in a first radial direction (D1) substantially orthogonal to the opposed direction thereof and axially movably within a predetermined stroke,

a pressing member (15) ~~[[is]]~~ arranged outside the slide portions (61, 61) diametrically expandably and diametrically contractibly and axially movably, ~~and~~

~~the wherein said~~ pressing member (15) is arranged to be driven toward a base end by a drive means(D), such that ~~whereby~~ the slide portions (61, 61) diametrically expand the pressing member (15) in a second radial direction (D2)

different from the first radial direction (D1), such that thereby the slide portions (61, 61) are moved in the first radial direction (D1) with respect to the plug member (12).

5. (Currently Amended) The positioning apparatus as set forth in claim 4, including wherein

inclined outer surfaces (13) ~~are~~ formed on the slide portions (61, 61),
an inclined inner surface (17) on the pressing member (15) enabling forming
~~allowed to make~~ a tapering engagement with the inclined outer surfaces (13) is
~~formed on the pressing member (15),~~

[[a]] an axially movable drive member (21) [[is]] inserted into the plug member (12), said axially movably, and the drive member (21) [[is]] connected to the pressing member (15),

the said drive member (21) arranged to move ~~moves~~ the pressing member (15) toward the base end for locking by expanding ~~to expand~~ the pressing member (15) in the second radial direction (D2) by the tapering engagement and to bring the pressing member (15) into close contact with an inner peripheral surface of the positioning hole (5), and

the said drive member (21) also arranged to move ~~moves~~ the pressing member (15) toward a leading end for releasing by canceling ~~to cancel~~ the diametrically expanded condition of the pressing member (15) and canceling ~~cancel~~ the closely contacted condition.

6. (Currently Amended) The positioning apparatus as set forth in claim 4, including wherein

an advancing means (69) arranged to advance ~~which advances~~ the slide portions (61, 61) toward a leading end ~~is provided~~.

7. (Currently Amended) The positioning apparatus as set forth in claim 1 or Claim 4, wherein

the first pressing member or pressing member (15) is formed in ~~into~~ an annular shape.

8. (Currently Amended) The positioning apparatus as set forth in claim 7, wherein a slit (51) is formed in the first pressing member or pressing member (15), said slit enabling the first pressing member or the pressing member (15) is allowed to deform in a diametrically expanding direction and a diametrically contracting direction ~~by existence of the slit (51).~~

9. (Currently Amended) The positioning apparatus as set forth in claim 1, wherein the second pressing member (19) is formed in ~~into~~ an annular shape.

10. (Currently Amended) The positioning apparatus as set forth in claim 9, including wherein a slit (57) ~~[[is]]~~ formed in the second pressing member (19), said slit enabling ~~and the second pressing member (19) is allowed~~ to deform in a diametrically expanding direction and a diametrically contracting direction ~~by existence of the slit (57).~~

11. (Currently Amended) The positioning apparatus as set forth in claim 9, including wherein gaps (A, A) disposed ~~are formed~~ between the second pressing member (19) and the plug member (12) in the first radial direction (D1).

12. (Currently Amended) The positioning apparatus as set forth in claim 1 or claim 4, wherein the first pressing member or the pressing member (15) is formed in ~~into~~ a block shape and arranged so as to oppose each other across the slide portions (61, 61) in plurality.

13. (Currently Amended) The positioning apparatus as set forth in claim 12, including wherein two contact portions (61a, 61a) formed on an outer surface of each of the

slide portions (61) circumferentially side by side, said contact portions arranged
~~allowed~~ to come into contact with an inner surface of the first pressing member or
pressing member (15) and escape portion (61b), and arranged between the two
contact portions (61a, 61a) ~~are formed on an outer surface of each of the slide~~
~~portions (61) circumferentially side by side, and~~

a gap (C) located ~~is formed~~ between the escape portion (61b) and the first
pressing member or pressing member (15).

14. (Currently Amended) The positioning apparatus as set forth in claim 12,
including wherein

two contact portions (15a, 15a) and an escape portion (15b) arranged
between the two contact portions (15a, 15a), said contact portion ~~are~~ formed on an
outer surface of each of the first pressing member or pressing member (15)
circumferentially side by side, ~~and~~

wherein, when the contact portions (15a, 15a) come into contact with an inner
peripheral surface of the positioning hole (5), and a gap (B) is formed between the
escape portion (15b) and the inner peripheral surface of the positioning hole (5).

15. (Currently Amended) The positioning apparatus as set forth in claim 12,
including wherein

a cylindrical connecting member (81) ~~[[is]]~~ arranged around an outer periphery
of the plug member (12), and

said ~~the~~ first pressing member or pressing member (15) is supported on the
connecting member (81) for movement ~~movably~~ in the second radial direction (D2).

16. (Currently Amended) The positioning apparatus as set forth in claim 12,
including wherein

a returning member (84) arranged to apply ~~which applies~~ diametrically
contracting force to the first pressing member or pressing member (15) ~~is provided~~.

17. (Currently Amended) The positioning apparatus as set forth in claim 1 or claim

4, wherein

the drive means (D) is arranged to move ~~moves~~ the second block (2) toward a base end via the first pressing member or pressing member (15) ~~in such a condition~~ such that the first pressing member or pressing member (15) comes into close contact with an inner peripheral surface of the positioning hole (5), and presses a supported surface (2a) of the second block (2) against a support surface (1a) of the first block (1).

18. (Currently Amended) A clamping system, comprising wherein
the positioning apparatus as set forth in claim 1 or claim 4 ~~is provided~~.

19. (Currently Amended) A clamping system, comprising wherein
a plurality of positioning apparatuses ~~are provided~~, wherein and at least one of which ~~them~~ is a the positioning apparatus as set forth in claim 1 or claim 4.